IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Jeff EDER

Serial No.: 10/717,026

Filed: November 19, 2003

For: AN ENTITY CENTRIC COMPUTER SYSTEM

Group Art Unit: 2121

Examiner: Michael Holmes

Brief on Appeal

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20321

Sir:

This appeal brief is being submitted for the above referenced application in response to the notice of non compliant appeal brief mailed on April 24, 2007. The Table of Contents is on page 2 of this paper.

Table of Contents

Real party in interest

Asset Reliance, Inc. (dba Asset Trust, Inc.)

Related appeals

An appeal for U.S. Patent Application 10/329,172 filed December 23, 2002 may be affected by or have a bearing on this appeal. An appeal for U.S. Patent Application 09/761,671 filed January 18, 2001 may be affected or have a bearing on this appeal. An Appeal for U.S. Patent Application 09/940,450 filed on August 29, 2001 may be affected by or have a bearing on this appeal.

Status of Claims

Claims 28 – 70 are pending and are the subject of this appeal. No other claims are pending. Claims 1 – 27 were withdrawn before the first office action.

Status of Amendments

An Amendment/Reply was submitted on December 9, 2006.

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Summary of Claimed Subject Matter

One embodiment of an entity centric computer system according to the present invention is best depicted in Figure 1 – 17 of the specification. Figure 1 gives an overview of the major processing steps which include obtaining data for use in processing, developing one or more entity contexts for a defined entity and storing them in a context base and analyzing the resulting contexts with the optional use of one or more context frames.

A first embodiment of the entity centric computer system is exemplified in independent claim 28 where an apparatus combines a plurality of entity related systems and databases with the means for acquiring and preparing the data from the systems and databases for use in processing, the means for transforming at least a portion of said data into a complete entity context, the means for storing each complete entity context and finally the means for distributing the complete entity context. As detailed in pages 12 – 21 of the specification, <u>a complete entity context identifies each of the one or more aspects of a context that have a tangible impact on the behavior of an entity</u> and it includes different aspects of context selected from the group consisting element context, resource context, factor context, reference context, measure context, relationship context, transaction context, lexical context, temporal context and combinations thereof. For independent claim 28, data are acquired and prepared for use in processing in as described in FIG. 6A reference numbers 201 – 209, FIG. 6B reference numbers 211, 212, 214, 216, 218, 220, 222, 224 and 226. FIG. 6C reference numbers 242, 244, 246, 248, 250, 252 and 254 and pages 47 – 68 of the specification. A complete entity context is then developed and stored as described in FIG. 7A reference numbers 301 – 305, 307 – 310 and 312 – 315, FIG. 7B reference numbers 322, 325, 304, 305, 209, 310 and 312-315, FIG. 7C reference numbers 332, 335, 304, 305, 209, 310 and 312-315, FIG. 7D reference numbers 303 – 305, 307 – 308 and 341 – 349, FIG. 7E reference numbers 304, 305, 325, 342, 344 – 348 and 356, FIG. 7F reference numbers 305, 335, 342 – 348 and 361. FIG. 7G reference numbers 370 – 374, 376 – 377, 379 – 380 and 382 and pages 69 - 107. The complete entity context is then distributed as described in FIG. 8A reference numbers 402, 403, 410, 413, 414 and 415 and pages 108 through line 25 of page 110 of the specification.

A second embodiment of the entity centric computer system is exemplified in independent claim 37 where a computer readable medium with a sequence of instructions causes the processors in a computer to aggregate data from entity related systems and then transforms at least a portion of said data into a complete entity context, before using the complete entity context to complete a variety of useful tasks. For independent claim 35, data are aggregated and prepared for use in processing in as described in FIG. 6A reference numbers 201 – 209, FIG. 6B reference numbers 211, 212, 214, 216, 218, 220, 222, 224 and 226. FIG. 6C reference numbers 242, 244, 246, 248, 250, 252 and 254 and pages 47 – 68 of the specification. A complete entity context is then developed and stored as described in FIG. 7A reference numbers 301 – 305, 307 – 310 and 312 – 315, FIG. 7B reference numbers 322, 325, 304, 305, 209, 310 and 312-315, FIG. 7C reference numbers 332, 335, 304, 305, 209, 310 and 312-315, FIG. 7D reference numbers 303 – 305, 307 – 308 and 341 – 349, FIG. 7E reference numbers 304, 305, 325, 342, 344 – 348 and 356, FIG. 7F reference numbers 305, 335, 342 – 348 and 361. FIG. 7G reference numbers 370 – 374, 376 – 377, 379 – 380 and 382 and pages 69 - 107. The complete entity context is then distributed as described in FIG. 8A reference numbers 402, 403, 410, 413, 414 and 415 and pages 108 through line 25 of page 110 of the specification and processed by a Complete Context™ Suite (625) of Applications. The Complete Context™ Suite is described in line 5 page 26 through line 5 page 37 of the specification and shown in FIG. 8A.

A third embodiment of the entity centric computer system is exemplified in independent claim 46 where a process aggregates data from entity related systems and then transforms at least

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a portion of said data into a complete entity context, before using the complete entity context to complete a search. For independent claim 46, data are aggregated and prepared for use in processing in as described in FIG. 6A reference numbers 201 – 209, FIG. 6B reference numbers 211, 212, 214, 216, 218, 220, 222, 224 and 226. FIG. 6C reference numbers 242, 244, 246, 248, 250, 252 and 254 and pages 47 – 68 of the specification. A complete entity context is then developed and stored as described in FIG. 7A reference numbers 301 – 305, 307 – 310 and 312 – 315, FIG. 7B reference numbers 322, 325, 304, 305, 209, 310 and 312-315, FIG. 7C reference numbers 332, 335, 304, 305, 209, 310 and 312-315, FIG. 7D reference numbers 303 – 305, 307 – 308 and 341 – 349, FIG. 7E reference numbers 304, 305, 325, 342, 344 – 348 and 356, FIG. 7F reference numbers 305, 335, 342 – 348 and 361. FIG. 7G reference numbers 370 – 374, 376 – 377, 379 – 380 and 382 and pages 69 - 107. The complete entity context is then distributed as described in FIG. 8A reference numbers 402, 403, 410, 413, 414 and 415 and pages 108 through line 25 of page 110 of the specification and processed by a Complete Context™ Search Engine (609). The Complete Context™ Search Engine is described in line 27 page 35 through line 3 pages 36 of the specification and is part of the Complete Context™ Suite (625).

A fourth embodiment of the entity centric computer system is exemplified in independent claim 51 where a computer system aggregates entity related data, transforms at least a portion of said data into a complete entity context and then distributes a complete entity context. As detailed in pages 12 – 21 of the specification, a complete entity context identifies each of the one or more aspects of a context that have a tangible impact on the behavior of an entity and it includes different aspects of context selected from the group consisting element context, resource context, factor context, reference context, measure context, relationship context, transaction context, lexical context, temporal context and combinations thereof. For independent claim 51, data are acquired and prepared for use in processing in as described in FIG. 6A reference numbers 201 – 209, FIG. 6B reference numbers 211, 212, 214, 216, 218, 220, 222, 224 and 226. FIG. 6C reference numbers 242, 244, 246, 248, 250, 252 and 254 and pages 47 – 68 of the specification. A complete entity context is then developed and stored as described in FIG. 7A reference numbers 301 – 305, 307 – 310 and 312 – 315, FIG. 7B reference numbers 322, 325, 304, 305, 209, 310 and 312-315, FIG. 7C reference numbers 332, 335, 304, 305, 209, 310 and 312-315, FIG. 7D reference numbers 303 – 305, 307 – 308 and 341 – 349, FIG. 7E reference numbers 304, 305, 325, 342, 344 – 348 and 356, FIG. 7F reference numbers 305, 335, 342 – 348 and 361. FIG. 7G reference numbers 370 – 374, 376 – 377, 379 – 380 and 382 and pages 69 - 107. The complete entity context is then distributed as described in FIG. 8A reference numbers 402, 403, 410, 413, 414 and 415 and pages 108 through line 25 of page 110 of the specification.

A fifth embodiment of the entity centric computer system is exemplified in independent claim 54 where a process aggregates data from entity related systems in accordance with a common schema and then transforms at least a portion of said data into a complete entity context, before using the complete entity context to complete a search. For independent claim 54, data are aggregated and prepared for use in processing in as described in FIG. 6A reference numbers 201 – 209, FIG. 6B reference numbers 211, 212, 214, 216, 218, 220, 222, 224 and 226. FIG. 6C reference numbers 242, 244, 246, 248, 250, 252 and 254 and pages 47 – 68 of the specification. A complete entity context is then developed and stored as described in FIG. 7A reference numbers 301 – 305, 307 – 310 and 312 – 315, FIG. 7B reference numbers 322, 325, 304, 305, 209, 310 and 312-315, FIG. 7C reference numbers 332, 335, 304, 305, 209, 310 and 312-315, FIG. 7D reference numbers 303 – 305, 307 – 308 and 341 – 349, FIG. 7E reference numbers 304, 305, 325, 342, 344 – 348 and 356, FIG. 7F reference numbers 305, 335, 342 – 348 and 361. FIG. 7G reference numbers 370 – 374, 376 – 377, 379 – 380 and 382 and pages 69 - 107. The complete entity context is then distributed as described in FIG. 8A reference numbers 402, 403, 410, 413, 414 and 415 and pages 108 through line 25 of page 110 of the specification and processed by a

Complete Context™ Search Engine (609). The Complete Context™ Search Engine is described in line 27 page 35 through line 3 pages 36 of the specification and is part of the Complete Context™ Suite (625).

A sixth embodiment of the entity centric computer system is exemplified in independent claim 60 where a where a computer readable medium with a sequence of instructions causes the processors in a computer to aggregate data from entity related systems in accordance with a common schema and then transforms at least a portion of said data into a complete entity context, before using the complete entity context to complete a search. For independent claim 60, data are aggregated and prepared for use in processing in as described in FIG. 6A reference numbers 201 – 209, FIG. 6B reference numbers 211, 212, 214, 216, 218, 220, 222, 224 and 226. FIG. 6C reference numbers 242, 244, 246, 248, 250, 252 and 254 and pages 47 – 68 of the specification. A complete entity context is then developed and stored as described in FIG. 7A reference numbers 301 – 305, 307 – 310 and 312 – 315, FIG. 7B reference numbers 322, 325, 304, 305, 209, 310 and 312-315, FIG. 7C reference numbers 332, 335, 304, 305, 209, 310 and 312-315, FIG. 7D reference numbers 303 – 305, 307 – 308 and 341 – 349, FIG. 7E reference numbers 304, 305, 325, 342, 344 – 348 and 356, FIG. 7F reference numbers 305, 335, 342 – 348 and 361. FIG. 7G reference numbers 370 – 374, 376 – 377, 379 – 380 and 382 and pages 69 - 107. The complete entity context is then distributed as described in FIG. 8A reference numbers 402, 403, 410, 413, 414 and 415 and pages 108 through line 25 of page 110 of the specification and processed by a Complete Context™ Search Engine (609). The Complete Context™ Search Engine is described in line 27 page 35 through line 3 pages 36 of the specification and is part of the Complete Context™ Suite (625).

A seventh embodiment of the entity centric computer system is exemplified in independent claim 66 where a where a computer system aggregates data from entity related systems in accordance with a common schema and then transforms at least a portion of said data into a complete entity context, before using the complete entity context to complete a search. For independent claim 66, data are aggregated and prepared for use in processing in as described in FIG. 6A reference numbers 201 – 209, FIG. 6B reference numbers 211, 212, 214, 216, 218, 220, 222, 224 and 226. FIG. 6C reference numbers 242, 244, 246, 248, 250, 252 and 254 and pages 47 – 68 of the specification. A complete entity context is then developed and stored as described in FIG. 7A reference numbers 301 – 305, 307 – 310 and 312 – 315, FIG. 7B reference numbers 322, 325, 304, 305, 209, 310 and 312-315, FIG. 7C reference numbers 332, 335, 304, 305, 209, 310 and 312-315, FIG. 7D reference numbers 303 – 305, 307 – 308 and 341 – 349, FIG. 7E reference numbers 304, 305, 325, 342, 344 – 348 and 356, FIG. 7F reference numbers 305, 335, 342 – 348 and 361. FIG. 7G reference numbers 370 – 374, 376 – 377, 379 – 380 and 382 and pages 69 - 107. The complete entity context is then distributed as described in FIG. 8A reference numbers 402, 403, 410, 413, 414 and 415 and pages 108 through line 25 of page 110 of the specification and processed by a Complete Context™ Search Engine (609). The Complete Context™ Search Engine is described in line 27 page 35 through line 3 pages 36 of the specification and is part of the Complete Context™ Suite (625).

An eighth embodiment of the entity centric computer system is exemplified in independent claim 70 where a where prepares data from a plurality of entity related systems for use in processing and then transforms at least a portion of said data into an entity knowledge, before using the complete entity context to complete a variety of tasks. For independent claim 70, data are aggregated and prepared for use in processing in as described in FIG. 6A reference numbers 201 – 209, FIG. 6B reference numbers 211, 212, 214, 216, 218, 220, 222, 224 and 226. FIG. 6C reference numbers 242, 244, 246, 248, 250, 252 and 254 and pages 47 – 68 of the specification. A complete entity context is then developed and stored as described in FIG. 7A reference numbers

301 – 305, 307 – 310 and 312 – 315, FIG. 7B reference numbers 322, 325, 304, 305, 209, 310 and 312-315, FIG. 7C reference numbers 332, 335, 304, 305, 209, 310 and 312-315, FIG. 7D reference numbers 303 – 305, 307 – 308 and 341 – 349, FIG. 7E reference numbers 304, 305, 325, 342, 344 – 348 and 356, FIG. 7F reference numbers 305, 335, 342 – 348 and 361. FIG. 7G reference numbers 370 – 374, 376 – 377, 379 – 380 and 382 and pages 69 - 107. The complete entity context is then distributed as described in FIG. 8A reference numbers 402, 403, 410, 413, 414 and 415 and pages 108 through line 25 of page 110 of the specification and processed by a Complete Context™ Suite (625) of Applications. The Complete Context™ Suite is described in line 5 page 26 through line 5 page 37 of the specification and shown in FIG. 8A.

Grounds of rejection to be reviewed on appeal

Issue 1 - Whether the inventions described in claims 28 - 36 represents patentable subject matter under 35 USC 101?

Issue 2 - Whether the inventions described in claims 37 - 45 represents patentable subject matter under 35 USC 101?

Issue 3 - Whether the inventions described in claims 46 - 50 represents patentable subject matter under 35 USC 101?

Issue 4 - Whether the inventions described in claims 51 - 53 represents patentable subject matter under 35 USC 101?

Issue 5 - Whether the inventions described in claims 54 - 59 represents patentable subject matter under 35 USC 101?

Issue 6 - Whether the inventions described in claims 60 - 65 represents patentable subject matter under 35 USC 101?

Issue 7 - Whether the inventions described in claims 66 - 69 represents patentable subject matter under 35 USC 101?

Issue 8 - Whether the invention described in claim 70 represents patentable subject matter under 35 USC 101?

The Argument

Grouping of Claims
For each ground of rejection which Appellant contests herein which applies to more than one claim, such additional claims, to the extent separately identified and argued below, do not stand and fall together.

Issue 1 - Whether the inventions described in claims 28 - 36 represents patentable subject matter under 35 USC 101?

The claims represent patentable subject matter and are patentable for at least four reasons:

1) because the Examiner has failed to establish a prima facie case of non statutory subject matter for the rejected claims,

2) because arguments regarding the alleged non statutory subject matter fail to comply with the requirements of the Administrative Procedures Act and are therefore moot,

3) because the claimed invention produces results that are concrete, tangible and useful, and

4) because the claimed invention physically transforms transaction data and descriptive into a complete entity context that can be distributed via a network.

The first reason the claims are patentable is that the Examiner has failed to establish a prima facie case that any of the claims are directed to non-statutory subject matter. As noted in the *Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility, the burden is on the USPTO to set forth a prima facie case of unpatentability*. The Examiner has simply failed to set forth such a case (or any case for that matter). To the contrary, the Examiner has ignored important aspects of the claimed invention that make it clear that the claims are statutory subject matter. In particular, the Examiner appears to have ignored the fact that the claims describe a process for transforming aggregated data into a complete context model for an entity that can be distributed via a network. The Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility also require that when evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole. The Appellant respectfully submits that the rejected claims taken as a whole describe the use of a complete entity context to facilitate and optimize the development, discovery and/or delivery of useful data, goods, information, knowledge and/or services. The Examiner has not presented any evidence that any of the claimed functions have no practical utility, are not concrete, are not tangible and/or are not useful. In short, the Examiner has failed to establish a prima facie case that could be used to sustain the §101 rejection of any of the rejected claims.

As stated previously, the second reason the claims are patentable is that the claim rejections are not in compliance with the requirements of the Administrative Procedures Act and are therefore moot. *In Dickinson v. Zurko, 119 S. Ct. 1816, 50 USPQ2d 1930 (1999), the Supreme Court held that the appropriate standard of review of USPTO findings of fact are the standards set forth in the Administrative Procedure Act ("APA") at 5 U.S.C. 706 (1994).* The APA provides two standards for review – an arbitrary and capricious standard and a substantial evidence standard. The Appellant respectfully submits that the instant Office Action fails to provide even a scintilla of evidence to support the allegation of non utility it contains and that as a result it fails to meet the substantial evidence standard. The Appellant respectfully submits that the 1 December 2006 Office Action also fails to pass the arbitrary and capricious test. Under the arbitrary and capricious test a reviewing court analyzes only whether a rational connection exists between the agency's fact

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findings and its ultimate action, (*see Hyundai Elecs. Indus. Co. v. ITC, 899 F.2d 1204, 1209, 14 USPQ2d 1396, 1400 (Fed. Cir. 1990).* The Appellant respectfully submits that the 1 December 2006 Office Action also fails to pass the arbitrary and capricious test because the Examiner has not completed any discernible fact finding that can be connected to the rejections contained in the Office Action.

The third reason the claims are patentable is that the claimed invention is a machine that produces results that are concrete, tangible and useful. In particular, the claimed invention produces, discovers and/or delivers data, information, knowledge, goods and/or services that are optimized for an entity context.

The fourth reason the claims are patentable is that the claimed invention transforms transaction data and descriptive data into a different thing: data, information, knowledge, goods and/or services that are optimized for an entity context. As noted in the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility *"the Supreme Court noted that one example of a statutory "process" is where the process steps provide a transformation or reduction of an article to a different state or thing (Diehr, 450 U.S. at 183, 209 USPQ at 6).* In Alappat, the Court held that *"data, transformed by a machine" "to produce a smooth waveform display" "constituted a practical application of an abstract idea." State Street, 149 F.3d at 1373.* In Arrhythmia, the Court held *"the transformation of electrocardiograph signals" "by a machine" "constituted a practical application of an abstract idea." Id.* Likewise, in State Street, the Court held that *"the transformation of data" "by a machine" "into a final share price, constitutes a practical application of a mathematical algorithm." Id.* Thus, while Diehr involved the transformation of a tangible object - curing synthetic rubber - the Court also regards the transformation of intangible subject matter to similarly be eligible, so long as data or signals represent some real world activity.

The third and fourth reasons taken together make it clear that the claimed invention passes the data transformation test and is a machine that supports a practical application with substantial, specific utility and is therefore statutory subject matter.

Issue 2 - Whether the inventions described in claims 37 - 45 represents patentable subject matter under 35 USC 101?

The claims are patentable in view of the shortcomings in the arguments that were detailed in issue 1 and the usefulness of the results produced by the claimed invention. In particular, claims 37 - 45 are allowable for the: first and second reasons advanced under Issue 1.

The third reason the claims are patentable is that the claimed invention is an article of manufacture that produces results that are concrete, tangible and useful. In particular, the claimed invention produces, discovers and/or delivers data, information, knowledge, goods and/or services that are optimized for an entity context.

The fourth reason the claims are patentable is that the claimed invention transforms transaction data and descriptive data into a different thing: data, information, knowledge, goods and/or services that are optimized for an entity context. As noted in the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility *"the Supreme Court noted that one example of a statutory "process" is where the process steps provide a transformation or reduction of an article to a different state or thing (Diehr, 450 U.S. at 183, 209 USPQ at 6).* In Alappat, the Court held that *"data, transformed by a machine" "to produce a smooth waveform display" "constituted a practical application of an abstract idea." State Street, 149 F.3d at 1373.* In Arrhythmia, the Court held *"the transformation of electrocardiograph signals" "by a machine" "constituted a practical application of an abstract idea." Id.* Likewise, in State Street, the Court held that *"the transformation of data" "by a machine" "into a final share price, constitutes a practical application of a mathematical algorithm." Id.* Thus, while Diehr involved the transformation of a

tangible object - curing synthetic rubber - the Court also regards the transformation of intangible subject matter to similarly be eligible, so long as data or signals represent some real world activity.

The third and fourth reasons taken together make it clear that the claimed invention passes the data transformation test and is an article of manufacture that supports a practical application with substantial, specific utility and is therefore statutory subject matter.

Issue 3 - Whether the inventions described in claims 46 - 50 represents patentable subject matter under 35 USC 101?

The claims are allowable in view of the shortcomings in the arguments that were detailed in issue 1 and the usefulness of the results produced by the claimed invention. In particular, claims 46 - 50 are allowable for the: first and second reasons advanced under Issue 1.

The third reason the claims are patentable is that the claimed invention is a process that produces results that are concrete, tangible and useful. In particular, the claimed invention identifies and displays specific search results that are relevant to a specific context for a specific entity.

The fourth reason the claims are allowable is that transaction data and descriptive data are transformed into specific search results that are relevant to a specific context for a specific entity. As noted in the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility "the Supreme Court noted that one example of a statutory "process" is where the process steps provide a transformation or reduction of an article to a different state or thing (Diehr, 450 U.S. at 183, 209 USPQ at 6). In Alappat, the Court held that *"data, transformed by a machine" "to produce a smooth waveform display" "constituted a practical application of an abstract idea." State Street, 149 F.3d at 1373.* In Arrhythmia, the Court held *"the transformation of electrocardiograph signals" "by a machine" "constituted a practical application of an abstract idea." Id.* Likewise, in State Street, the Court held that *"the transformation of data" "by a machine" "into a final share price, constitutes a practical application of a mathematical algorithm." Id.* Thus, while Diehr involved the transformation of a tangible object - curing synthetic rubber - the Court also regards the transformation of intangible subject matter to similarly be eligible, so long as data or signals represent some real world activity.

The third and fourth reasons taken together make it clear that the claimed invention passes the data transformation test and is a process that supports a practical application with substantial, specific utility and is therefore statutory subject matter.

Issue 4 - Whether the inventions described in claims 51 - 53 represents patentable subject matter under 35 USC 101?

The claims are patentable in view of the shortcomings in the arguments that were detailed in issue 1 and the usefulness of the results produced by the claimed invention. In particular, claims 51 - 53 are allowable for the: first and second reasons advanced under Issue 1.

The third reason the claims are allowable is that the claimed invention is a machine that produces results that are concrete, tangible and useful. In particular, the claimed invention produces an entity context that enables the optimized development, discovery and/or delivery of useful data, information, knowledge, goods and/or services.

The fourth reason the claims are patentable is that transaction data and descriptive data are transformed into an entity context hat that enables the optimized development, discovery and/or delivery of useful data, information, knowledge, goods and/or services. As noted in the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility "the

Supreme Court noted that one example of a statutory "process" is where the process steps provide a transformation or reduction of an article to a different state or thing (Diehr, 450 U.S. at 183, 209 USPQ at 6). In Alappat, the Court held that *"data, transformed by a machine" "to produce a smooth waveform display" "constituted a practical application of an abstract idea." State Street, 149 F.3d at 1373.* In Arrhythmia, the Court held *"the transformation of electrocardiograph signals" "by a machine" "constituted a practical application of an abstract idea." Id.* Likewise, in State Street, the Court held that *"the transformation of data" "by a machine" "into a final share price, constitutes a practical application of a mathematical algorithm." Id.* Thus, while Diehr involved the transformation of a tangible object - curing synthetic rubber - the Court also regards the transformation of intangible subject matter to similarly be eligible, so long as data or signals represent some real world activity.

The third and fourth reasons taken together make it clear that the claimed invention passes the data transformation test and is a machine that supports a practical application with substantial, specific utility and is therefore statutory subject matter.

Issue 5 - Whether the invention described in claims 54 - 59 represents patentable subject matter under 35 USC 101?

The claims are allowable in view of the shortcomings in the arguments that were detailed in issue 1 and the usefulness of the results produced by the claimed invention. In particular, claims 54 - 59 are allowable for the: first and second reasons advanced under Issue 1.

The third reason the claims are patentable is that the claimed invention is a process that produces results that are concrete, tangible and useful. In particular, the claimed invention identifies and displays specific search results that are relevant to an entities specific context and priorities.

The fourth reason the claims are allowable is that transaction data and descriptive data are transformed into a process that produces specific search results that are relevant to an entities specific context and priorities. As noted in the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility "the Supreme Court noted that one example of a statutory "process" is where the process steps provide a transformation or reduction of an article to a different state or thing (Diehr, 450 U.S. at 183, 209 USPQ at 6). In Alappat, the Court held that *"data, transformed by a machine" "to produce a smooth waveform display" "constituted a practical application of an abstract idea." State Street, 149 F.3d at 1373.* In Arrhythmia, the Court held *"the transformation of electrocardiograph signals" "by a machine" "constituted a practical application of an abstract idea." Id.* Likewise, in State Street, the Court held that *"the transformation of data" "by a machine" "into a final share price, constitutes a practical application of a mathematical algorithm." Id.* Thus, while Diehr involved the transformation of a tangible object - curing synthetic rubber - the Court also regards the transformation of intangible subject matter to similarly be eligible, so long as data or signals represent some real world activity.

The third and fourth reasons taken together make it clear that the claimed invention passes the data transformation test and is a process that supports a practical application with substantial, specific utility and is therefore statutory subject matter.

Issue 6 - Whether the invention described in claims 60 - 65 represents patentable subject matter under 35 USC 101?

The claims are patentable in view of the shortcomings in the arguments that were detailed in issue 1 and the usefulness of the results produced by the claimed invention. In particular, claims

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60 - 65 are allowable for the: first and second reasons advanced under Issue 1.

The third reason the claims are patentable is that the claimed invention is an article of manufacture that produces results that are concrete, tangible and useful. In particular, the claimed invention identifies and displays specific search results that are relevant to an entities specific context and specific priorities when an entities context includes a measure context layer.

The fourth reason the claims are allowable is that transaction data and descriptive data are transformed into an article of manufacture that produces specific search results that are relevant to an entities specific context and priorities. As noted in the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility "the Supreme Court noted that one example of a statutory "process" is where the process steps provide a transformation or reduction of an article to a different state or thing (Diehr, 450 U.S. at 183, 209 USPQ at 6). In Alappat, the Court held that *"data, transformed by a machine" "to produce a smooth waveform display" "constituted a practical application of an abstract idea." State Street, 149 F.3d at 1373.* In Arrhythmia, the Court held *"the transformation of electrocardiograph signals" "by a machine" "constituted a practical application of an abstract idea." Id.* Likewise, in State Street, the Court held that *"the transformation of data" "by a machine" "into a final share price, constitutes a practical application of a mathematical algorithm." Id.* Thus, while Diehr involved the transformation of a tangible object - curing synthetic rubber - the Court also regards the transformation of intangible subject matter to similarly be eligible, so long as data or signals represent some real world activity.

The third and fourth reasons taken together make it clear that the claimed invention passes the data transformation test and is an article of manufacture that supports a practical application with substantial, specific utility and is therefore statutory subject matter.

Issue 7 - Whether the invention described in claims 66 - 69 represents patentable subject matter under 35 USC 101?

The claims are patentable in view of the shortcomings in the arguments that were detailed in issue 1 and the usefulness of the results produced by the claimed invention. In particular, claims 66 - 69 are allowable for the: first and second reasons advanced under Issue 1.

The third reason the claims are patentable is that the claimed invention is a machine that produces results that are concrete, tangible and useful. In particular, the claimed invention identifies and displays specific search results that are relevant to a specific entities specific context and priorities.

The fourth reason the claims are allowable is that transaction data and descriptive data are transformed into a machine that produces specific search results that are relevant to an entities specific context and priorities. As noted in the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility "the Supreme Court noted that one example of a statutory "process" is where the process steps provide a transformation or reduction of an article to a different state or thing (Diehr, 450 U.S. at 183, 209 USPQ at 6). In Alappat, the Court held that *"data, transformed by a machine" "to produce a smooth waveform display" "constituted a practical application of an abstract idea." State Street, 149 F.3d at 1373.* In Arrhythmia, the Court held *"the transformation of electrocardiograph signals" "by a machine" "constituted a practical application of an abstract idea." Id.* Likewise, in State Street, the Court held that *"the transformation of data" "by a machine" "into a final share price, constitutes a practical application of a mathematical algorithm." Id.* Thus, while Diehr involved the transformation of a tangible object - curing synthetic rubber - the Court also regards the transformation of intangible subject matter to similarly be eligible, so long as data or signals represent some real world activity.

The third and fourth reasons taken together make it clear that the claimed invention passes the data transformation test and is a machine that supports a practical application with substantial, specific utility and is therefore statutory subject matter.

Issue 8 - Whether the invention described in claim 70 represents patentable subject matter under 35 USC 101?

The claim is patentable in view of the shortcomings in the arguments that were detailed in Issue 1 and the usefulness of the results produced by the claimed invention. In particular, claim 70 is allowable for the: first and second reasons advanced under Issue 1.

The third reason the claims are patentable is that the claimed invention is a process that produces results that are concrete, tangible and useful. In particular, the claimed invention produces and/or delivers data, information, knowledge that are optimized for an entity context.
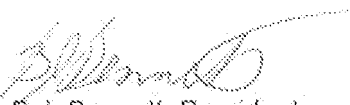
The fourth reason the claims are patentable is that the claimed invention transforms transaction data and descriptive data into a different thing: data, information, knowledge, goods and/or services that are optimized for an entity context. As noted in the Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility "the Supreme Court noted that one example of a statutory "process" is where the process steps provide a transformation or reduction of an article to a different state or thing (Diehr, 450 U.S. at 183, 209 USPQ at 6). In Alappat, the Court held that "data, transformed by a machine" "to produce a smooth waveform display" "constituted a practical application of an abstract idea." State Street, 149 F.3d at 1373. In Arrhythmia, the Court held "the transformation of electrocardiograph signals" "by a machine" "constituted a practical application of an abstract idea." Id. Likewise, in State Street, the Court held that "the transformation of data" "by a machine" "into a final share price, constitutes a practical application of a mathematical algorithm." Id. Thus, while Diehr involved the transformation of a tangible object - curing synthetic rubber - the Court also regards the transformation of intangible subject matter to similarly be eligible, so long as data or signals represent some real world activity.

The third and fourth reasons taken together make it clear that the claimed invention passes the data transformation test and is a process that supports a practical application with substantial, specific utility and is therefore statutory subject matter.

Conclusion

For the extensive reasons advanced above, Appellant respectfully but forcefully contends that each claim is patentable. The Appellant also takes note of the fact that the claim rejections may represent another apparent violation of 35 USC 3 as the stated basis for the claim rejections runs counter to the U.S.P.T.O. position expressed in regards to In re Comiskey, No. 2006- 1286. Therefore, reversal of all rejections is courteously solicited.

Respectfully submitted,

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Dated: May 2, 2007

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Serial No: 10/717,026

28. An entity context apparatus, comprising:

    a plurality of entity related systems and databases,

    means for preparing data from said systems and databases for use in processing,

    means for developing a complete entity context using at least a portion of said data,

    means for data and information storage, and

    means for complete entity context distribution

      where a complete entity context identifies each of the one or more aspects of a context that have a tangible effect on a behavior of an entity,

      where an enterprise entity has two or more entity function measures, and

      where a complete entity context includes different aspects of context selected from the group consisting element context, resource context, factor context, reference context, measure context, relationship context, transaction context, lexical context, temporal context and combinations thereof.

29. The apparatus of claim 28 that further comprises means for applying all or part of a complete entity context to support useful activities selected from the group consisting of completing actions, improving entity performance, managing entity performance, responding to events, supporting entity performance, analyzing the impact of user specified changes on entity function measure performance, capturing entity related knowledge from one or more subject matter experts, collaborating with others to refine entity knowledge, customizing any combination of products, services and information for the entity, developing programs for entity related devices, developing programs for bots to support entity performance, developing new entity related software programs, developing an entity ontology, displaying knowledge about entity performance, educating users, managers and collaborators about the entity in an interactive manner, establishing priorities for entity actions and commitments, establishing expected performance levels for the entity, exchanging any combination of resources, elements, commitments, data and information with one or more other entities in an automated fashion, forecasting future values of entity related variables, identifying metrics and rules for monitoring entity performance, identifying changes that will optimize entity performance on one or more function measures, identifying the valid context space for entity analyses, identifying the data and information that is most relevant to the entity, identifying entity preferences, loading the data and information that is most relevant to the entity into a cache, optimize information technology support of entity performance, providing a true natural language interface for entity related software, quantifying risks to entity performance,

quantifying the impact of surprises on entity performance, reviewing entity performance using user defined measures, regulatory measures and combinations thereof, searching for data in context, searching for information in context, searching for knowledge in context, simulating entity performance, underwriting entity related securities and combinations thereof.

30. The apparatus of claim 28 where an entity is selected from a group of domains consisting of political, habitat, intangibles, interpersonal, market, organization, biology, cellular, organism, protein, chemistry, geology, physics, space, tangible goods, water, weather and combinations thereof.

31. The apparatus of claim 28 where an entity is a separate entity, a combination of two or more entities or a multi-entity system.

32. The apparatus of claim 28 where an entity is a member of one or more groups selected from the group consisting of voter, precinct, caucus, city, county, state/province, regional, national, multi-national, global, household, neighborhood, community, city, region, brand, expectations, ideas, ideology, knowledge, law, money, right, relationship, service, individual, nuclear family, extended family, clan, ethnic group, organization, multi-organization, industry, market, economy, team, group, department, division, company, organization species, genus, family, order, class, phylum, kingdom, macromolecular complexes, protein, rna, dna, x-ylation, organelles, cells, structures, organs, organic systems, organism, monomer, dimer, large oligomer, aggregate, particle, molecules, compounds, chemicals, catalysts, minerals, sediment, rock, landform, plate, continent, planet, quark, particle zoo, protons, neutrons, electrons, atoms, molecules, dark matter, asteroids, comets, planets, stars, solar system, galaxy, universe, compounds, minerals, components, subassemblies, assemblies, subsystems, goods, systems pond, lake, bay, sea, ocean, creek, stream, river, current, atmosphere, clouds, lightning, precipitation, storm, wind and combinations thereof.

33. The apparatus of claim 28 where preparing data for use in processing further comprises:
developing a common entity specific configuration for organizing data selected from the group consisting of schema, ontology and combinations thereof, and
converting data to a common entity specific schema and storing said data in accordance with said schema, converting data to a common entity specific ontology and storing said data in accordance with said ontology or a combination thereof.

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34. The apparatus of claim 28 where data are aggregated from the group of consisting of organization systems, personal systems, bio medical systems, scientific systems, devices and combinations thereof.

35. The apparatus of claim 28 that is supported by computer hardware from the group consisting of a computer, a cluster, a plurality of computers connected via a network, one or more virtual computers, one or more blade servers, a plurality of computers connected via a grid, a device and combinations thereof.

36. The apparatus of claim 28 that further comprises support for context development, context storage and context distribution for a collection of entities or a population of entities.

37. A computer readable medium having sequences of instructions stored therein, which when executed cause the processors in a plurality of computers that have been connected via a network to perform an entity context method, comprising:

aggregating data from a plurality of entity related systems,

developing a complete entity context using at least a portion of said data where a complete entity context includes one or more different aspects of context selected from the group consisting element context, resource context, factor context, reference context, measure context, relationship context, transaction context, lexical context and combinations thereof and where a complete entity context identifies each of the one or more aspects of a context that have a tangible influence on a behavior of an entity, where an enterprise entity has two or more entity function measures, and

using a complete entity context to support useful activities selected from the group consisting of completing actions, improving entity performance, managing entity performance, responding to events, supporting entity performance, analyzing the impact of user specified changes on entity function measure performance, capturing entity related knowledge from one or more subject matter experts, collaborating with others to refine entity knowledge, customizing any combination of products, services and information for the entity, developing programs for entity related devices, developing programs for bots to support entity performance, developing new entity related software programs, developing an entity ontology, displaying knowledge about entity performance, educating users, managers and collaborators about the entity in an interactive manner, establishing priorities for entity actions and commitments, establishing

expected performance levels for the entity, exchanging any combination of resources, elements, commitments, data and information with one or more other entities in an automated fashion, forecasting future values of entity related variables, identifying metrics and rules for monitoring entity performance, identifying changes that will optimize entity performance on one or more function measures, identifying the valid context space for entity analyses, identifying the data and information that is most relevant to the entity, identifying entity preferences, loading the data and information that is most relevant to the entity into a cache, optimize information technology support of entity performance, providing a true natural language interface for entity related software, quantifying risks to entity performance, quantifying the impact of surprises on entity performance, reviewing entity performance using user defined measures, regulatory measures and combinations thereof, searching for data in context, searching for information in context, searching for knowledge in context, simulating entity performance, underwriting entity related securities and combinations thereof.

38. The computer readable medium of claim 37 where each of one or more aspects of context are developed in an automated fashion by learning from the data.

39. The computer readable medium of claim 37, wherein each of one or entity function measures further comprise a measure selected from the group consisting of a temporal measure, a transaction measure, a financial measure, a physical measure, a satisfaction measure and combinations thereof.

40. The computer readable medium of claim 37 where an entity is a separate entity, a collaboration between two or more entities or a multi-entity system.

41. The computer readable medium of claim 37 where an entity is a member of one or more groups selected from the group consisting of voter, precinct, caucus, city, county, state/province, regional, national, multi-national, global, household, neighborhood, community, city, region, brand, expectations, ideas, ideology, knowledge, law, money, right, relationship, service, individual, nuclear family, extended family, clan, ethnic group, organization, multi-organization, industry, market, economy, team, group, department, division, company, organization species, genus, family, order, class, phylum, kingdom, macromolecular complexes, protein, rna, dna, x-ylation, organelles, cells, structures, organs, organic systems, organism, monomer, dimer, large oligomer, aggregate, particle, molecules, compounds, chemicals, catalysts, minerals, sediment, rock,

landform, plate, continent, planet, quark, particle zoo, protons, neutrons, electrons, atoms, molecules, dark matter, asteroids, comets, planets, stars, solar system, galaxy, universe, compounds, minerals, components, subassemblies, assemblies, subsystems, goods, systems pond, lake, bay, sea, ocean, creek, stream, river, current, atmosphere, clouds, lightning, precipitation, storm, wind and combinations thereof.

42. The computer readable medium of claim 37 where a complete entity context is developed by a series of models selected from the group consisting of neural network; regression, generalized additive; support vector method, entropy minimization, generalized autoregressive conditional heteroskedasticity, wavelets, Markov, Viterbi, relevance vector method, Ornstein - Uhlenbeck, Bayesian, kriging, multivalent, multivariate adaptive regression splines, swarm, probabilistic – relational, power law, fractal, data envelopment analysis, path analysis and combinations thereof.

43. The computer readable medium of claim 37 where a complete entity context includes attributes from the group consisting of the definition of one or more entity functions, the relative importance of the one or more entity functions, one or more entity function measures, the identity and description of current, past and future entity actions, the identity and description of elements that support the completion of entity actions, the identity and description of resources consumed during the completion of entity actions, the identity and description of environmental factors that affect the completion of entity actions, the interrelationship between elements, factors and resources, the relationship between elements, factors, resources, entity actions and entity function measure performance and combinations thereof.

44. The computer readable medium of claim 37 where a complete entity context is developed in an automated fashion by learning from the data.

45. The computer readable medium of claim 37 where the method further comprises identifying a valid context space for each entity context.

46. A search method comprising:
    aggregating data from a plurality of entity related systems,
    develop one or more entity contexts for an individual entity and for a group of individual entities using at least a portion of said data,
    identifying a combination of data and information that is relevant to one or more layers of

context for an entity selected from the group consisting of the individual entity, the group entity and combinations thereof using said entity contexts, and

displaying the results in order of relevance

where an entity context further comprises a relationship context layer and a plurality of context layers selected from the group consisting an element context layer, a resource context layer, a factor context layer, a reference context layer, a measure context layer, a transaction context layer, a lexical context layer and combinations thereof, and

where an entity context identifies one or more aspects of a context that have a tangible effect on a behavior of an entity.

47. The method of claim 46 that further comprises:

completing a transaction in an automated fashion where a price for said transaction is a function of an entity context.

48. The method of claim 46 wherein a measure context layer provides information that supports an identification of data and information relevance that is a function of its value to an entity.

49. The method of claim 46 wherein each entity context layer of a plurality of context layers is developed in automated fashion by learning from the data.

50. The method of claim 46 that has a context quotient of 200.

51. A context distribution system, comprising:

a device with a processor having circuitry to execute instructions; a storage device available to each processor with sequences of instructions stored therein, which when executed cause the processor to:

aggregate data from a plurality of entity related systems,

develop one or more entity contexts using at least a portion of said data where an entity context includes a reference context and one or more different aspects of context selected from the group consisting element context, resource context, factor context, measure context, relationship context, transaction context, lexical context and combinations thereof, and

distribute one or more of the entity contexts in an automated fashion

where an entity context identifies one or more aspects of a context that have a tangible

influence on a behavior of an entity.

52.   The context distribution system of claim 51 that supports distribution methods selected from the group consisting of operating system layer propagation, device synchronization, device synchronization and replication, packet distribution, natural language interface and combinations thereof.

53.   The context distribution system of claim 51 that distributes one or more aspects of context in separate layers where said layers further comprise operating system layers, middleware layers or web service capabilities.

54.   A context search method, comprising

    Aggregating data related to an entity in accordance with a common schema,

    Analyzing at least a portion of said data as required to identify an entity context and one or more priorities for said entity given said context,

    Identifying data, information and knowledge that is relevant to said entity context, and

    Presenting at least one of relevant data, relevant information or relevant knowledge after sorting said data, information or knowledge on the basis of entity context relevancy and priorities

        where an entity context identifies one or more aspects of a context that have a tangible impact on a behavior of an entity, and

        where data related to an entity are obtained from a world wide web and the group consisting of a plurality of entity related narrow system databases, one or more external databases, an Intranet, a direct input and combinations thereof.

55.   The method of claim 54, wherein an entity context further comprises an element context and one or more aspects of context selected from the group consisting of resource context, factor context, reference context, measure context, relationship context, transaction context, lexical context, temporal context and combinations thereof

        where a reference context further comprises information that defines a relationship of one or more aspects of context selected from the group consisting element context, resource context, factor context, measure context, relationship context, transaction context and combinations thereof to one or more coordinate systems over time.

56. The method of claim 54, wherein one or more priorities are defined by one or more mission measures.

57. The method of claim 56, wherein one or more mission measures further comprise any quantifiable measure.

58. The method of claim 56, wherein one or more mission measures further comprise measures selected from the group consisting of a temporal measure, a transaction measure, a financial measure, a physical measure, a satisfaction measure and combinations thereof.

59. The method of claim 54, wherein an entity context is developed by learning from the data.

60. A program storage device readable by machine, tangibly embodying a program of instructions executable by a machine to perform method steps for performing a context search method, the method steps comprising:

Aggregating data related to an entity in accordance with a common schema,

Analyzing at least a portion of said data as required to identify an entity context and one or more priorities for said entity given said context,

Identifying data, information and knowledge that is relevant to said entity context, and

Presenting at least one of relevant data, relevant information or relevant knowledge after sorting said data, information or knowledge on the basis of entity context relevancy and priorities

where an entity context identifies one or more aspects of a context that have a tangible effect on a behavior of an entity, and

where an entity context further comprises a measure context and one or more aspects of context selected from the group consisting of resource context, factor context, element context, reference context, relationship context, transaction context, lexical context, temporal context and combinations thereof.

61. The program storage device of claim 60, wherein one or more priorities are defined by one or more mission measures.

62. The program storage device of claim 61, wherein one or more mission measures further comprise any quantifiable measure selected from the group consisting of a transaction measure, a financial measure, a physical measure, a satisfaction measure and combinations thereof.

63. The program storage device of claim 60, wherein data related to an entity are obtained from the group consisting of a plurality of entity related narrow system databases, one or more external databases, a world wide web, a direct input and combinations thereof.

64. The program storage device of claim 60, wherein one or more priorities for an entity are identified in an automated manner by learning from the data.

65. The program storage device of claim 60, wherein an entity is selected from a group of domains consisting of political, habitat, intangibles, interpersonal, market, organization, biology, cellular, organism, protein, chemistry, geology, physics, space, tangible goods, water, weather and combinations thereof.

66. A context search system comprising:

   networked computers each with a processor having circuitry to execute instructions; a storage device available to each processor with sequences of instructions stored therein, which when executed cause the processors to:

      (a) aggregate data related to an entity in format suitable for processing,

      (b) analyze at least a portion of said data as required to identify an entity context and one or more priorities for said entity given said context,

      (c) identify data, information and knowledge that is relevant to said entity context, and

      (d) presenting at least one of relevant data, relevant information or relevant knowledge after it is sorted on the basis of entity context relevancy and priorities

         where an entity context identifies each of the one or more aspects of a context that have a tangible impact on a behavior of an entity,

         where one or more priorities for the entity are identified by said entity, and

         where an entity context further comprises a factor context and one or more aspects of context selected from the group consisting of measure context, resource context, reference context, element context, relationship context, transaction context, lexical context, temporal context and combinations thereof where a measure context further identifies and quantifies an impact of actions, events, elements, factors and resources on each of a plurality of entity function measures by time period.

67. The system of claim 66, wherein one or more priorities are defined by one or more entity function measures where said function measures further comprise a temporal measure and one or more measures selected from the group consisting of a transaction measure, a financial measure, a physical measure, a satisfaction measure and combinations thereof.

68. The system of claim 66, wherein identifying data, information or knowledge that is relevant to an entity context further comprises the development of one or more indices for a measure context and for aspects of context selected from the group consisting of element context, factor context, reference context, relationship context, transaction context, lexical context, temporal context, resource context and combinations thereof.

69. The program storage device of claim 66, wherein data related to an entity are obtained from the group consisting of a one or more entity related narrow system databases, one or more external databases, a world wide web, a direct input and combinations thereof.

70. An entity knowledge method, comprising
    Preparing a plurality of entity related data for use in processing,
    Analyzing at least a portion of said data as required to develop an entity knowledge, and
    Using said knowledge to complete useful activities selected from the group consisting of identifying the data, information and knowledge that is most relevant to the entity, identifying entity preferences, loading the data and information that is most relevant to the entity into a cache, optimize information technology support of entity performance, providing a true natural language interface for entity related software and combinations thereof where an entity knowledge further comprises a model of entity behavior that supports the identification of an optimal set of actions for a given context.

Evidence Appendix

None

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Related Proceedings Appendix

None